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ABSENCE OF RESONANCE IN THE FIFTH RIGHT INTERCOSTAL SPACE DIAGNOSTIC OF PERICARDIAL EFFUSION.¹

BY T. M. ROTCH, M. D.

THE method which was finally adopted was as follows: The subject was placed in the position of orthopnœa, that is, the trunk was bent upon the lower limbs at an angle of about one hundred and twenty degrees. Tracheotomy was performed, and a clamped rubber tube attached to the glass tracheal tube. The lungs were then inflated until the area of heart flatness corresponded to that marked out in Diagram I., which is copied directly from Luschka's plate, and is, as is stated by Luschka, intended to represent the parts in expiration.

After inflation, the tracheal tube was clamped, so as to keep the parts in position, and an incision was made in the median line of the abdomen, up to within two centimetres of the ensiform cartilage; the liver and stomach were next gently drawn aside, and on palpation of the central tendon of the diaphragm, four centimetres below the upper edge of the diaphragm and about two centimetres to the left of the median line, the heart was felt. This part of the diaphragm was then carefully drawn down away from the heart, in order that that organ should not be punctured, and a dagger-pointed trocar, previously filled with melted cocoa butter so as to displace the air, was plunged through the diaphragm into the pericardial sac; at the same time an assistant unclamped the tracheal tube, in order that the lungs might be free to retract before the fluid.

When sufficient fluid had entered the pericardium the cocoa-butter tube was clamped, as was also the tracheal tube. The thorax was then carefully percussed, and the line of flatness marked in ink. After twenty-four hours the sternum was removed from above downwards, remaining attached below, and we had before us the lungs in position surrounding the hardened fluid, and by replacing the sternum and comparing the line previously marked in ink, by means of needles, with the line of the lung around the effusion, we arrived at very accurate results regarding the shape of the area of flatness.

¹ Concluded from page 393.

The fact that on opening the abdomen the diaphragm remains arched, and that the lung by means of the tracheal clamp retains its position and does not collapse, warrants us in assuming that we can fairly judge of the position of the fluid during life by this method of investigation, especially as the contractility and distensibility of the lung appeared to be perfectly retained after death, excepting in very cold weather, when it was found necessary to warm the cadaver.

The apparatus for the cocoa butter is a simple wash bottle, graded for cubic centimetres.

We must now shortly consider the anatomy of the normal pericardium, and its relation to the heart and lungs. This, so far as the adult is concerned, I have taken mostly from Ferber, Luschka, Sibson, and Shroetter; while in regard to the infant I have made my own dissections, comparing the thoracic organs with those of the adult, and finding, as I have above stated, the relation of the parts so nearly approximating each other in the two that the rules which govern an effusion in one answer for the other.

According to Schröetter and Luschka, in the normal condition of the thoracic organs, on expiration, we have the flatness of the heart beginning at the junction of the upper border of the fourth left costal cartilage, extending outwards and downwards to the left in rather a curved line, with the convexity outwards, and keeping from two to three centimetres within the nipple, until it joins the flatness of the left lobe of the liver; from the same starting-point at the fourth cartilage, it extends down the left parasternal line, or perhaps a little within that line towards the middle of the sternum, until it reaches the liver, as seen in Diagram I. This figure is at times triangular, especially on deep expiration. We therefore may have a triangular area of flatness over the normal heart, though it is usually quadrangular. Next, supposing that the lungs are removed, we then have exposed to view the pericardium as seen in Diagram II., represented by the area A, and copied directly from Ferber's *Situs Phantom*. The base of the pericardium is attached to the central tendon of the diaphragm, extends upward, enveloping the heart, and is attached to the great vessels of the heart between the first and second ribs, spreading out on either side of the sternum in pyriform shape, most markedly on the left side of the sternum, but keeping within the mammary line.

The lower border of the upper lobe of the right lung approaches the right edge of the sternum at about the level of the fourth rib; on the left side the upper lobe passes around the heart down nearly to the sixth rib; the middle lobe of the right lung, in the region between the right mammary line and the sternum, extends from the fourth to the sixth rib, where the line of the liver flatness begins. This amount of anatomy is sufficient for our purpose at present.

First, we will consider what takes place when we introduce a small amount of fluid into the pericardium, picking out from my notes a case which may be regarded as typical. January 7, 1878, injected by the usual method, through the diaphragm, a small amount of fluid into the pericardium of an infant of from one to two weeks old. Percussion gave an increase of præcordial flatness, as follows: beginning at the sixth rib, about two centimetres to the right of the sternum, it passed upwards in a curved line with the convexity outwards to the fourth right costal cartilage at its lower edge, then across the sternum to the upper border of the fourth left costal cartilage and outwards and downwards to and to the outside of the nipple, passing down to the sixth or seventh rib, as is seen in Diagram III. There was no vertical increase of flatness. This line of flatness then was a semicircle, with its convexity upwards, and with the radius of that part of the curve which was to the right of the sternum shorter than that which was to the left. What was this flatness caused by? On clamping the trachea and removing the sternum, the area of flatness, marked out in ink, was found to correspond to that part of the pericardium which was uncovered by the lungs; it was found that the lower lobes had retracted before the fluid, and that the fluid had taken the shape which is represented in Diagram III., the normal physiological flatness of the heart forming the upper part of the area of flatness, and the effusion the lower part. The lungs were then drawn aside, and the pericardium, with its contained effusion, was seen to present the form which is shown in Diagram IV., the effusion apparently being drawn up at the sides, where it was thickest, leaving a thin layer below, so that the broadest part of the effusion about corresponded to the top of the curved line. The same result, as to the area of flatness, was obtained whenever a small amount of fluid was introduced, whether in the infant or adult, the increase always being in a line with the lower part of the sternum, and never vertically.

Perhaps it will be well here to describe shortly the case where I was enabled to determine the first signs of effusion in an adult, by the introduction of from seventy to eighty cubic centimetres of fluid, which is from twenty to thirty cubic centimetres less than the smallest amount laid down by authors as being possible to make a diagnosis by.

April 22, 1878. Subject, a female of medium size, who had died of cancer of the rectum: percussion of lungs and heart normal; resonance in fifth right intercostal space well marked. Dr. Maurice Richardson managed the cocoa-butter apparatus for me, keeping his eyes on the graduated scale and his hand on the clamp; the trocar was introduced, and I proceeded to percuss lightly the fifth right interspace about one and one half to two centimetres from the edge of the sternum, until decided flatness was found and verified by Dr. Richardson, who then immediately applied the clamp, when we found by our scale that when the flatness

first appeared seventy to eighty cubic centimetres of fluid had been introduced. We then found that no vertical increase of flatness had taken place, and that the curved line bounding the area of flatness corresponded to that in Diagram III., the percussion flatness extending in the fifth interspace to about four centimetres from the edge of the sternum.

Next we will consider the large effusion, where the pericardium is pretty well filled from top to bottom.

May 10, 1878, with the assistance of Professor Bowditch, injected the pericardium of an infant about two weeks old, until percussion showed that the præcordial flatness had extended to the nipple on the right, and beyond the nipple to the left, in an area corresponding to the front of the thorax as high as the fourth ribs, when it approached the sternum to within about one and a half centimetres, and then passed upwards to the sternal notch.

The distended pericardium, with the lungs removed, is represented in Diagram II. by the area A and D.

Diagram V. represents the picture disclosed to our view on clamping the trachea and removing the sternum, in the case where the pericardium was spoken of as filled, and is drawn directly from the cadaver. The exact amount which must be injected before an increase of vertical flatness is obtained I have not yet determined. It may be objected that the fluid was introduced at the bottom of the pericardium, while naturally it should start at the base of the heart. In my earlier experiments I *did* introduce the fluid where the pericardium is reflected over the great vessels, but even when it was in very small amount and quite insufficient to cause any increase of percussion flatness, it immediately ran down the side of the heart to the bottom of the pericardium, so that I cannot conceive of its collecting to any appreciable amount at the base of the heart and being retained there. Even if it was retained there, it would not by its form represent an inverted triangle, as I have proved by inverting the cadaver and filling the upper part of the pericardium, when the resulting cast always had its broadest part directed towards the diaphragm. Nevertheless, as the convictions of some of the greatest clinical observers on this point are very decided, we must, in deference to their opinion, wait until more extended clinical facts are brought to bear on the subject before eliminating flatness at the base of the heart as diagnostic of the early stage of effusion in pericarditis.

As to the change of the position of the heart's apex spoken of by Flint and Reynolds, namely, that the apex is pushed upwards and outwards by a moderate effusion, so that the impulse appears in the fourth left intercostal space, I did not in my experiments find that this was the case, the apex being found by measurement to remain in its normal position; and, in fact, it seems highly improbable that a fluid, which ac-

cording to Skoda always has a smaller specific gravity than the heart, should push that organ upward, a proceeding which would be quite contrary to the physical laws which govern the relation between a solid body and a liquid, when such body is suspended in the liquid and has a greater specific gravity than the liquid. By referring to Diagram III. — of the small effusion — it seems more plausible to account for the pulsation in the fourth interspace by the tumultuous action of the side of the heart, which, as is seen in Diagram III., can approach the thoracic wall at this point, especially as it has been observed by Professors Ludwig and Bowditch that the impulse of the heart, as seen normally in the fifth left intercostal space, need not necessarily be caused by the heart's apex, but by a portion of the heart above the apex striking against the thoracic wall.

The whole question, however, depends on the correctness of Skoda's observation, that the heart must always sink in a pericardial effusion as far as its attachments will allow, and this can be determined only by carefully taking the specific gravity of pericardial effusions of different densities and comparing them with the specific gravities of the fluids in which the suspended heart will float or sink. Skoda, however, is also incorrect in supposing that the small amount of fluid stands as high as possible in the pericardium, thus causing an increased vertical flatness; for in reality the lower part of the pericardium envelops the lower part of the heart so loosely that the small effusion has plenty of room to collect in the lower part of the pericardium first, making an increased distention in breadth, and, as we have seen, appearing in the fifth interspace.

Before proceeding to discuss the general conclusions which we are warranted in assuming in regard to the diagnosis of pericardial effusion, we must consider what changes in the præcordial area of flatness may be due to changes in the heart itself.

For this purpose it is not necessary for us to consider particularly whether the left or right side of the heart is hypertrophied or dilated; the question of interest to us, in this connection, is the result of all these conditions, that is, simply what possible part of the præcordia may be rendered flat on percussion by an enlarged heart; for I hold that we cannot as yet distinguish with sufficient certainty between the absence of resonance obtained on percussing over a fluid from that obtained on percussing over a solid organ, such as the heart or liver, to warrant us in giving an opinion as to which is fluid and which is solid, and that therefore it is of the utmost importance to determine where the heart, if enlarged, might cause flatness, for this area must be taken into consideration, and subtracted from the whole area of flatness, before we are justified in introducing a trocar expecting to find fluid.

In determining the possible area of percussion flatness caused by enlargement of the heart, I have consulted Bamberger, Oppolzer, Gerhardt, Shroetter, Paul and Felix Niemeyer, and finally Professor Adolf Weil, of Heidelberg, who has published some excellent plates on this subject. These authors all concur as to the extension of the flatness to the left of the left nipple, just as we have seen the effusion to extend. Oppolzer and Gerhardt speak of the possible increase of flatness upwards beyond the line of the fourth rib.

There is some difference of opinion as to the extension of the flatness to the right of the sternum. Shroetter contends that increase of flatness to the right of the sternum as diagnostic of enlarged heart is not nearly so frequent as is generally supposed, and gives as an instance of great increase in size two to five centimetres to the left of the left mammary line, and possibly two to four centimetres beyond the right edge of the sternum. Professor Ellis doubts if we ever find flatness beyond the right edge of the sternum, and says that it would be especially rare as low as the fifth interspace. Oppolzer says that the flatness may possibly reach one centimetre beyond the right edge of the sternum. The other authors either give the right edge of the sternum as the limit, or do not state definitely the part of the sternum where the flatness passes to the right. Weil holds that, even in extreme cases, the absolute dullness or flatness does not encroach on the fifth right intercostal space, while the relative dullness may extend over the right edge of the sternum for from two to three centimetres. The area of flatness of an enlarged heart, represented in Diagram VI., gives the combined views of these authors, even to an exaggerated degree, so as to avoid all error, and it will be seen that the area of flatness, represented by A, does not enter, to any appreciable degree, the fifth right intercostal space.

All these authors consider that the form of the area of flatness of an enlarged heart is determined by the retracted border of the lungs.

Oppolzer and Kunze find that, in enlargement of the whole heart, a truncated triangle form of flatness is sometimes found. Weil also, in his plates, makes the area of flatness of an enlarged heart have a triangular shape. According to these authors' own testimony, then, we cannot consider the triangular or truncated pyramid form of the præcordial area of flatness decidedly characteristic of effusion, for both the normal and enlarged heart may assume these shapes.

On precise experiment, also, we find that the form of the area of flatness merits the name of a semicircle in the small effusion rather than a triangle or pyramid, and that the latter terms certainly would be misleading if applied to the large effusion as represented in Diagram V. Why, then, retain these misleading terms, which only tend to confuse us in our endeavors properly to appreciate the subject?

As, however, the effusion as it varies in its amount will also vary in

its form, it is wiser in making our diagnosis by percussion not to seek for any particular shape, but to find a part of the thorax where flatness on percussion will be significant of effusion. Now the flatness found to the left of the sternum, that found in the vertical line, and possibly that found to the right of the sternum above the fifth rib may occur, and yet no effusion be present; we therefore eliminate all that area of flatness marked in Diagram VI., area A, and find that we have left, in both the small and large effusion, an *area of flatness in the fifth right intercostal space*, as represented in Diagram III. In this interspace the flatness first appears as characteristic of effusion. It probably also appears, at the same time, to the left of the sternum, but the physiological flatness of the heart here obscures it. For diagnosis, then, *flatness, at from two to three centimetres from the right edge of the sternum in the fifth intercostal space*, would be almost absolutely sufficient to mark the presence of an effusion, unless the opinions of authorities on enlarged heart are proved to be incorrect; and I would here merely suggest, as it is a subject which I expect to treat of in a future paper, that puncture of the pericardium can safely be performed in the fifth right intercostal space, at from four and a half to five centimetres from the edge of the sternum, where the flatness, as is shown in Diagram III., extends even beyond the line E E' E'', which represents, in Diagram VI., the relative dullness of the enlarged heart, according to Weil. At least it will be far safer, so far as the heart is concerned, to perform paracentesis at this point than where it has been heretofore advised and practiced by surgeons, namely, in the third, fourth, and fifth left interspaces; for, as is seen in Diagram III., we may, in the third and fourth spaces, have our flatness caused by the physiological flatness of the heart, and by referring to the casts of cocoa butter which I have preserved we find that the layer of fluid, even when present, is thinnest over that portion of the præcordia, and also in the part which corresponds to the fifth left interspace, while it is thickest at the sides.

There are a few points which it will be well to speak of here.

The lung seems to retract before the fluid, and it is the lowest part of the lung which first retracts, thus leaving a curved line of flatness with its convexity outwards.

The top of the area of flatness is almost on a line with the broadest diameter of a small effusion, as is seen by comparing Diagrams III. and IV.

Additional value is given to the diagnosis of an effusion by percussion from the facts that where an effusion is present the friction sound need not necessarily have ever occurred; that the apex beat in effusion may be felt to the left and below the nipple, as in enlarged heart, extending outwards as far as the line of flatness does, and *vice versâ*; that at times the apex beat of an enlarged heart may be very feeble, and

even imperceptible ; also, that the rational signs of enlarged heart and pericardial effusion may be at times almost identical.

In conclusion, I shall describe as briefly as possible the extremely small number of clinical observations which I have been able to make during the past winter.

The first was a woman who died at the Channing Home. Flatness on percussion was found in the fifth right intercostal space to the distance of five centimetres from the edge of the sternum. There was no increase of vertical flatness. The autopsy showed the pericardium to be distended with about one hundred and twenty cubic centimetres of fluid.

The second case is especially interesting as showing the difficulty which may be met with in the differential diagnosis between enlarged heart and effusion without the aid of our *fifth right intercostal space*. This case, a boy six years of age, is best spoken of in connection with another, a girl eleven years of age, who was under observation at the same time, through the kindness of Dr. Davenport, of the Children's Hospital. In both patients the same rational signs were presented, such as orthopnoea, præcordial pain, etc. In both cases the attack followed acute articular rheumatism. In both cases the force of the heart's impulse was of about the same intensity, and appeared to be a little to the left and below the left nipple. The vertical flatness was not increased in either case ; the area of flatness to the left of the sternum was identical in both cases. In the boy, however, flatness was found in the fifth right intercostal space, while in the girl it did not extend beyond the left edge of the sternum. In the boy a loud undoubted pericardial friction sound developed at the base of the sternum ; in the girl a decided murmur developed at the apex of the heart. These last two symptoms are spoken of to show the strong probability of the correctness of the diagnosis that the boy was a case of pericarditis, and that the girl was a case of endocarditis with enlarged heart, though of course this could only be proved by autopsy, and the cases must merely be taken for what they are worth ; but, when we remember that the friction sound might have been absent, and that apparently endocardial murmurs may occur where no disease of the heart itself but merely a pericardial effusion is present, we again have to appeal to our *fifth right interspace* for diagnosis.

My third and last case was a patient seen at the City Hospital, whom, through the kindness of Dr. Doe, I was allowed to examine thoroughly. In this patient the area of percussion flatness, verified by Dr. Doe, exactly corresponded to that marked out in Diagram III., and I made my diagnosis simply by the flatness in the *fifth right interspace*. The case was especially interesting from the fact that it illustrated Gerhard's observation of the change of the area of flatness in effusion

on change of position of the patient. When the patient was in the position of orthopnoea we obtained the fifth interspace flatness; when she was horizontal this flatness disappeared, leaving the normal resonance of the lung.

As additional proof that this was a case of pericardial effusion, an undoubted pericardial friction sound, testified to by several of the physicians at the hospital, developed, and according to Professor Traube it is exceedingly rare to mistake this sound for a pleural friction sound.

A CASE OF LUMBAR COLOTOMY PERFORMED FOR THE
RELIEF OF TEMPORARY OBSTRUCTION OF THE BOWELS,
CAUSED BY PELVIC INFLAMMATION.¹

REPORTED BY DRs. E. G. CUTLER AND JOHN HOMANS.

Mrs. H., thirty-two years of age, born in France, married, and the mother of five children, three of whom are dead, entered the medical ward of the Carney Hospital, in the service of Dr. E. G. Cutler, on March 20, 1878, with the following history: She had always been well till four months before her last confinement, when she had jaundice, which persisted till a short time after delivery. Two months before entrance she was confined naturally, and shortly after the birth of the child she had numerous not severe chills, and pain in the lower part of the abdomen, and later she had constipation, which was relieved by pills. The operations from the bowels gradually became more difficult, and at last the pills lost their effect, and recourse was had to enemata, which latter also failed after a time. For the past twenty-four days there has been no movement of the bowels. There has been no fever nor vomiting except within a day or two. She has suffered somewhat from pain in the lowest part of the abdomen, without tenderness; also from pain at the sides of the abdomen, apparently due to distention. Since her confinement the pain has been more or less constant, accompanied by a desire to go to stool. Four days ago she vomited several times without apparent cause, and passed much flatus by the mouth; the vomiting has recurred every day since at irregular intervals. Now the face wears an anxious expression, there is considerable distention of the abdomen which interferes somewhat with free respiration, and on percussion the belly is everywhere tympanitic. Nothing remarkable is to be felt on palpation. Pulse 130 in the minute, rather feeble; temperature 99° F.; respiration 30. Some tenderness in both iliac regions. Occasional vermicular contractions of the intestines are to be seen, and these give rise to pain. Her appetite is gone. Her tongue has a brownish-black coat, except at the edges and tip; the breath has an offensive

¹ Read before the Boston Society for Medical Improvement, August 12, 1878.

faecal odor; there has been vomiting three or four times in the past twenty-four hours, and a pretty constant nausea.

Turpentine stupes were placed on the belly, and a solution of morphia and atropia was given by the mouth to control the vermicular contractions of the intestines. Milk, beef tea, brandy, and cracked ice, the latter *ad libitum*, were ordered. She took only two doses of morphia through the night, and said she slept well; the nurse, however, reported that she was very restless, and disturbed the other patients. With the assistance of Dr. Bradford two enemata, as large as could be borne without great discomfort and pain, were given (only about six fluid ounces could be injected) without effect.

On vaginal and rectal examination the uterus was found to be fixed by an indurated mass which filled the brim and upper part of the true pelvis entirely, and which descended rather lower on the left than on the right side. The sensation given to the examining finger was as if plaster of Paris had been poured into the pelvis from above, and had set, firmly fixing the uterus and compressing the rectum, so that it was impervious to the finger at the seat of compression. Diagnosis of pelvic inflammation, probably cellulitis, was made.

Dr. John Homans, the surgeon on duty, was called in consultation at four in the afternoon. The distention and discomfort were then greater, and there was mild delirium. The temperature was 101° ; the pulse 130; and the respiration rapid. She had twice vomited offensive faecal-smelling material. Under ether nine punctures were made with the aspirator needle, and some flatus was drawn off, with slight relief. The diagnosis was confirmed by the hand in the rectum, after Simon's method, and the finger was passed up as high as was considered advisable, but could not be forced through the stricture. At nine in the evening the temperature was 102.2° ; the pulse 126, and weak; and the respiration 36.

March 22d. The patient slept but little last night. She vomited matter looking like faeces and having a strong odor of the same. The morning temperature was 101° ; the pulse was 126. After consultation with Drs. J. Homans, Bradford, and G. B. Shattuck, left lumbar colotomy was decided upon, and the operation was performed by Dr. Homans. The patient was etherized, and placed on her right side, with a pillow beneath her loin. The positions of the anterior superior and posterior superior spinous processes of the ilium were then made out, the distance between them was measured, and an oblique incision five inches in length was made downwards from the last rib towards the anterior superior spinous process. The centre of this incision was a point half an inch nearer the posterior spinous process of the ilium than the anterior, according to Allingham's rule. The structures beneath were divided on a director, and care was taken to make the incisions in

the subcutaneous tissues equal to that in the skin. Beneath the deep layer of fat the gut was easily found. Two sutures were passed through the intestine, which was partially rolled forwards. It was then opened by a longitudinal incision about an inch long. The centres of the sutures were drawn out and divided and each side of the divided intestine attached to the skin. After these had been secured four more stitches were introduced. A quantity of gas was immediately discharged from the opening in the bowel, and a moderate amount of semi-solid, yellow faecal matter slowly followed. The edges of the skin were united by silk sutures, and a piece of oiled silk covered with a pad of oakum and a bandage was applied. At nine the same evening a profuse faecal discharge took place from the wound, and the patient was left very comfortable.

March 23d. There was little sleep last night, owing to distention and uneasiness. Nothing has passed through the artificial opening since nine o'clock last night, and nothing by the rectum. Two doses of morphia were required. The morning temperature was 101.2° ; pulse 120. In the evening the temperature was 101° ; the pulse 114. The patient had slept more or less through the day, and now complained of sore mouth. On examination there was found to be a severe attack of stomatitis, involving the lips, gums, and cheeks; a wash of glycerine and borax was ordered.

March 24th. Slept well. Took one sixth grain of morphia during the night. More or less faecal matter was passing by the wound, and a few minute pieces came from the rectum.

March 26th. The faecal fistula was now thoroughly established, and the faeces passed regularly through it. The tympanites and all uncomfortable feelings had disappeared. The wound was dressed twice daily with oakum, and its edges were approximated as much as possible. The morning temperature was 98° ; the pulse 96. The evening temperature was 98.5° ; the pulse 116. There was pain on pressure over the lower part of the abdomen, and a hot poultice was ordered. During the next five days there were two operations daily from the fistula, and a few small faecal masses, of a pale color, and covered with more or less mucus, were discharged from the rectum occasionally, when enemata were given. Quinine was given in five-grain doses *ter die*.

April 1st. The wound is perfectly healthy. The patient had a chill last night, followed by fever, and her temperature was 104.24° .

April 2d. A vaginal examination showed less hardness and resistance towards the right broad ligament, but towards the left there was still a hard mass, which extended into the pelvis. The uterus was not so firmly fixed as formerly. There was a slight amount of tenderness in the cul-de-sac towards the left ilium. No fluctuation was detected. Palpation from above disclosed tenderness over both inguinal regions, more marked over the left, with a sensation of deep fullness. The rectum

contained a few small scybala. Hot-water vaginal douches were ordered. The patient was now sleeping well, and eating with a good appetite meat and solid food.

April 4th. Diffused redness (superficial erysipelas) has appeared over the right ilium. Temperature this morning was 102°. In the evening it was 103°. Quinine increased to six grains.

April 5th. The patient had a chill this evening, followed by fever and sweating. She was ordered ten grains of quinine three times a day, and half a drachm of syrup of the iodide of iron after meals.

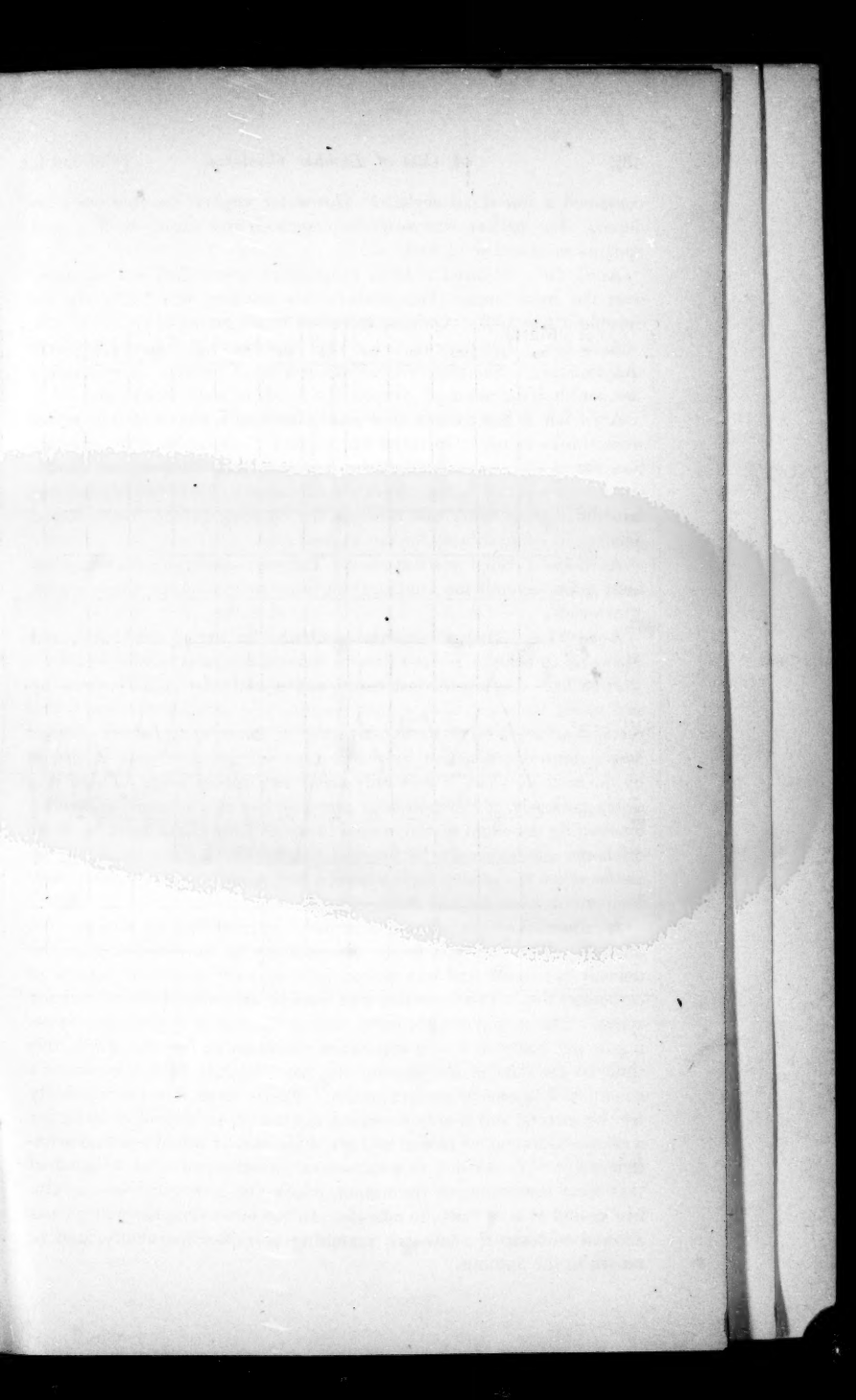
April 7th. The patient slept poorly last night, and is feeling rather weak this morning. On rectal and vaginal examination after etherization the hard mass on the left was found to have disappeared, though the uterus was still bound down by adhesions. Fluid forcibly injected into the rectum came out through the opening in the loin. Rectal douches were substituted for the vaginal ones.

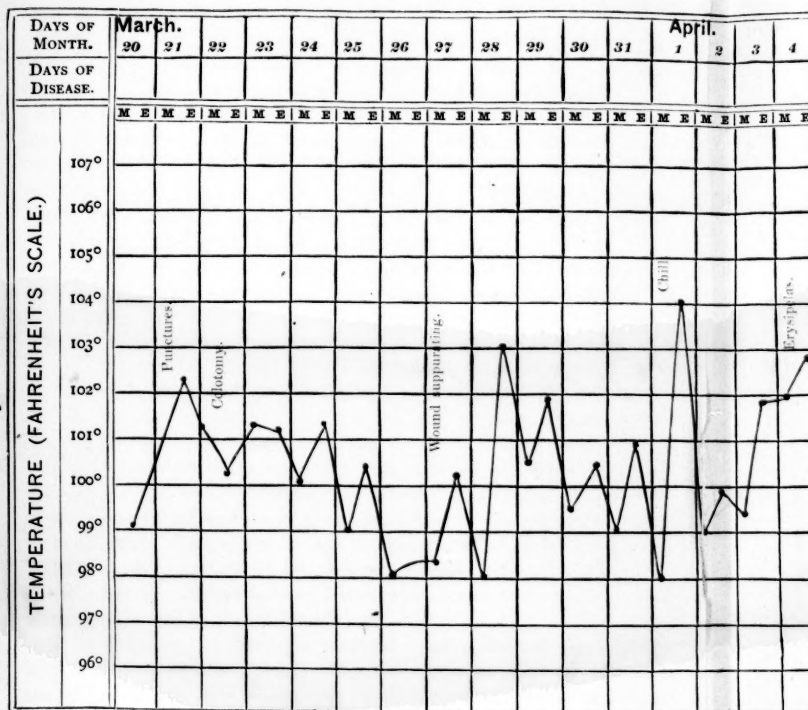
April 10th. Slept well last night. Tongue considerably coated. Continue quinine; omit the iron, and substitute sodæ sulphitis, thirty grains, after meals.

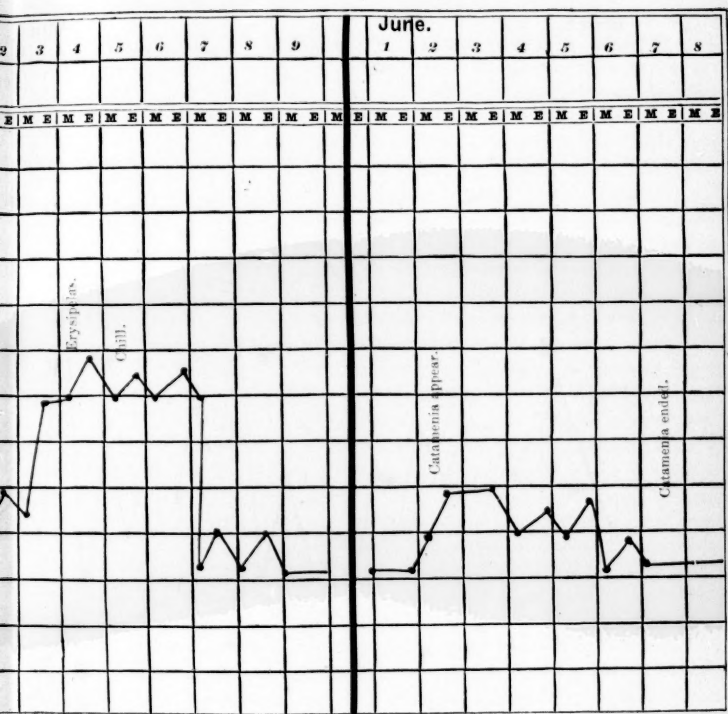
April 11th. Had a comfortable night. Is feeling very well, and sitting up in chair. Wound dressed twice a day, and looking healthy.

June 1st. During the last month and a half Mrs. H. has been up and about the ward, with a good appetite and excellent health. The rectal discharges have been increasing in amount, and once she has had a natural evacuation by the rectum without any fæcal discharge by the wound, which is now only about two inches long. There is a slight tendency of the bowel to prolapse, but this is easily controlled by keeping the edges of the wound in apposition. The morning fæcal discharge can generally be brought out by the rectum by giving an enema when the patient feels a motion beginning to pass by the wound. Menstruation has become reëstablished.

A natural desire to close the artificial opening led us to make the attempt. The skin was freely dissected up to its junction with the mucous membrane and was united by deep and superficial sutures of carbolized silk. The operation was done in an atmosphere of carbolic spray. The wound did not unite, and at the end of a week the opening in the bowel and skin was about the same as before. From this time till the date of her leaving the hospital, July 14th, the patient's condition was one of perfect health. Fæces were now passing freely by the rectum, and it only remained to attempt to close the fistula by a plastic operation, or to wait and see if the wound would not heal spontaneously. We decided to wait several months, and if at the end of that time contraction of the wound, which was now going on rapidly, had ceased to take place, to operate. In the mean time the patient was allowed to leave the hospital, promising to report frequently, and to return in the autumn.







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RECENT PROGRESS IN URINARY SURGERY.

BY T. B. CURTIS, M. D.

Internal Urethrotomy.—This subject has received a good deal of attention of late, and several publications have appeared, setting forth the indications, methods, and advantages of the operation. In England internal urethrotomy had been but little resorted to by the generality of surgeons until within a few years, although long employed by Sir Henry Thompson, who says that throughout his experience he has found "nothing so efficient, so safe, and so certain." Notwithstanding this important indorsement of the operation, and all the recorded experience to be found in French and American publications, several English surgeons of note have recently given forth papers in which internal urethrotomy is treated of as a novelty, familiar details being enlarged upon, as if constituting recent discoveries. American and French surgeons will find little of interest in these contributions, except in the way of indorsement of already established facts, or of additional testimony concerning points still remaining unsettled.

The papers and articles alluded to would seem to show that the surgery of stricture is as yet but imperfectly understood in England. This impression is based, in the first place, upon the extensive employment of external perineal urethrotomy, — at Leeds¹ the operation was performed thirty-nine times in three years, with seven deaths, — and, in the second place, upon the fact that the attention of English surgeons seems to be wholly concentrated upon the treatment of tight or "confirmed" stricture, in which contraction has advanced so far as to reveal itself to the patient himself by an unmistakable obstruction to micturition. The initial stage of stricture, in which a persistent gleet may for years be the only symptom attending the slow and gradual formation of a retrograde contraction, without any appreciable obstruction to the passage of urine, — in which stage there is good reason to believe that the disease is not radically incurable, — this stage of stricture seems still to be ignored as such by most English surgeons. Even Sir Henry Thompson himself looks upon smallness of the stream as the first and chief symptom of stricture, and asserts in the most unequivocal manner that when a catheter of calibre 10 or 11 (English) can be passed easily through the urethra no stricture can exist, and no further use of instruments can be needed.² Mr. Lund, speaking of the period at which urethral contractions become appreciable, says that "a man who contracts gonorrhœa at twenty draws a bill upon his constitution payable at forty; in other words, it is not for nearly twenty years after recov-

¹ E. Atkinson, *British Medical Journal*, March 16, 1878, page 361.

² *Diseases of the Urinary Organs*, London, 1876, page 42.

ery from his inflamed urethra that he is made conscious of the slow contraction of cicatrices which year by year have narrowed the passage to a permanent degree, and rendered his urethra almost impassable to ordinary instruments." It appears to be the custom of English surgeons to postpone the surgical treatment of stricture until the "confirmed" stage is reached, in which a more or less serious impediment to micturition is complained of by the patient. Such a course — involving neglect of the disease during the long early stage of gradual contraction, in which the primitive normal calibre of the passage is slowly being encroached upon, without any appreciable or manifest obstacle to the passage of the urine — strikes an American surgeon as no less irrational than it would be to postpone the detection and treatment of stone in the bladder until the nature of the case had been recognized by the patient himself, until cystitis had arisen, or until the stone had attained a diameter exceeding, say, an inch.

Mr. Arthur E. Durham,¹ writing on internal urethrotomy by aid of a new urethrotome, thinks that the various instruments in use are "either wanting in precision and accuracy of application, or else that they serve to cut a fresh way by the stricture into the urethra beyond rather than effectually to operate upon the strictured part itself." To avoid the extensive false passages which seem to him of such common occurrence, his instrument comprises a slender, curved, steel guide, *hollow*, "with openings like those of a catheter for the indicative escape of urine." The necessity of a tube allowing the "indicative escape of urine," by which the surgeon may be made sure that his instrument has really reached the bladder, is insisted upon by several of the recent English authors. Mr. Teevan, advocating similar caution, says, "When the instrument is apparently in the bladder, I withdraw the stylet to verify its position. If urine flow, I operate; if it do not, I withdraw the urethrotome, and try again another day."

From what precedes, then, it would seem to be not unusual in England for surgeons to ensheath a metallic instrument to a depth of eight or ten inches in a patient's body without remaining within the urethra or reaching the bladder at all. This calamity is spoken of by Mr. Durham as a frequent occurrence, and Mr. Teevan thinks that whenever it happens the operation would better be postponed! This mode of recognizing the whereabouts of a catheter by the escape of urine is open to the very grave objection that the needed information comes *after the damage* has been done. A much simpler and safer, and every way better plan is never to attempt the introduction of a slender metallic instrument through a narrow urethra unless threaded on a fine whalebone guide, or better still preceded by a flexible capil-

¹ British Medical Journal, March 16, 1878, page 358.

lary conductor screwed on. The penetration of the latter into the bladder can, if necessary, be verified by Guyon's expedient, as follows: Before introducing the Maisonneuve urethrotome, he screws a very slender, long, straight wire on the capillary bougie, and by means of this wire pushes the bougie to a depth of six or eight inches into the passage. If no difficulty is found in doing this, it is evident that the bougie has gone into the bladder, and is there coiled up. After completion of the cutting, Guyon removes his urethrotome without wholly withdrawing the capillary bougie, unscrews it, and substitutes the long wire, which then serves as a conductor for an elastic catheter open at both ends. This he ties in for a day or two.

Mr. Durham's instrument comprises, in addition to the slender, hollow guide, a bulb with four slits, from which as many narrow blades can be made to issue, making four incisions of slight depth. This procedure of multiple scarification Mr. Durham thinks preferable to urethrotomy proper. After the use of his instrument a "large-sized catheter, No. 10 or 12, could be introduced, and was fixed in for several days. The results obtained in the two cases cited were that in one a No. 10 catheter could be passed seven months after the operation, while in the other case the patient, three months after operation, continued to use the catheter (10) at least once daily. Such being the operation and its results, we can hardly wonder that Mr. Durham's conclusion should be that "internal urethrotomy must be regarded as an exceptional operation, to be practiced in exceptional cases."

Mr. Teevan¹ is much more conversant than most English surgeons with the recent improvements in the treatment of stricture, as well as with the foreign literature of the subject. He is strongly in favor of internal urethrotomy, which operation, however, he does not think capable of producing a radical cure. He says that "pathologically there is no evidence to prove that a stricture can be cured, but practically all strictures are curable, provided an instrument is occasionally passed at regular intervals." Mr. Teevan's instrument is a modified Maisonneuve urethrotome, in which the knife is guarded by a double sheath, sliding in telescopic fashion outside the grooved staff in which the knife travels. In this modification Teevan was anticipated by Voillemier. Teevan's staff is tunneled, and is introduced by threading it along a conducting bougie. The groove in which the blade travels stops at two inches from the vesical end, to avoid cutting beyond the Membranous portion of the urethra. The cut is made on the roof of the canal. After the operation a silver catheter, No. 25, is introduced to test the calibre of the passage, and to empty the bladder. No catheter is tied in, the patient being allowed to urinate naturally. Four days after the

¹ British Medical Journal, March 16, 1878, page 361.

operation a bougie is introduced; this is repeated twice weekly for about ten days, and after that once weekly.

Mr. Lund¹ publishes a little book on Internal Urethrotomy with its Modern Improvements. Having previously, he says, fully discussed the merits of internal urethrotomy, he "now describes those details of the operation which will render it applicable to every variety of finely-contracted urethra." His book is, however, open to the objection, already urged against English urethral surgery in general, that it admits as strictures, requiring surgical treatment, only the tight filiform contractions of many years' standing. For cases of this description, which would be the rare exception instead of the rule if surgeons would but recognize the earlier stages of the disease, and, by suitable surgical procedures, forestall the tendency to gradual slow contraction, Mr. Lund's procedures seem exceedingly well devised. He, too, is apt to be uncertain whether or not his instrument is in the bladder unless he can see urine flowing through a fine tube, which, he says, clears up all doubt. The instrument which he prefers is Teevan's modification of the Maisonneuve urethrotome. He, however, passes the cutting part of the instrument fairly on into the bladder, which seems unnecessary, — since stricture never exists so far back as the membranous portion of the canal, — and may be harmful by occasioning, as Mr. Lund acknowledges, troublesome venous hæmorrhage, requiring to be controlled by cold applied to the perinæum, or by placing ice in the rectum.

Mr. Lund, in common with the greater number of authors on urethral surgery, relies on quinine to prevent shock, urethral fever, etc. The utility of quinine for this purpose seems to be assumed rather than demonstrated. Malherbe² found by careful observation in Guyon's wards at the Necker Hospital that both the prophylactic and the curative virtues of quinine in urethral fever were quite insignificant. He says that "sulphate of quinine causes a slight diminution of temperature when given in very large, or, more properly, excessive doses, but that it does not occasion any permanent defervescence, nor does it prevent the occurrence of fever."

Dr. Otis's views are pretty well known to our readers. He has recently published a volume³ in which his opinions and the results of his extensive practice are elaborately set forth, and in which the objections brought forward by his opponents are fully considered. Space does not at present allow us to do more than allude to this most valuable contribution to urethral surgery, which appears likely, in our opinion, to bring about a real and great improvement in the treatment of stricture. We believe that Dr. Otis's methods of diagnosis and treatment,

¹ Internal Urethrotomy with its Modern Improvements, London, 1877.

² De la Fièvre dans les Maladies des Voies urinaires, Paris, 1872.

³ Stricture of the Urethra: Its Radical Cure. By F. N. Otis. New York. 1878.

involving the detection and relief of stricture in its earliest stages of formation, if generally adopted, would render unnecessary all the procedures and instruments hitherto extolled for the treatment of "confirmed stricture."

ANNUAL MEETING OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.

THE third annual meeting of the American Gynecological Society was held at the hall of the College of Physicians, Philadelphia, September 25th, 26th, and 27th, the sessions lasting each day from ten to one and from three to five o'clock. The following members were present: Fordyce Barker, T. A. Emmett, T. G. Thomas, E. Noeggerath, P. F. Mundé, of New York; J. Byrne, H. J. Garrigues, of Brooklyn; J. D. Trask, of Astoria, L. I.; D. H. Storer, G. H. Lyman, A. D. Sinclair, J. R. Chadwick, W. L. Richardson, of Boston; Gilman Kimball, of Lowell; W. Goodell, R. A. F. Penrose, A. H. Smith, T. M. Drysdale, E. Wilson, of Philadelphia; S. C. Busey, J. T. Johnson, of Washington; H. P. C. Wilson, of Baltimore; J. P. White, of Buffalo; W. H. Byford, of Chicago; J. C. Reeve, of Dayton, Ohio; H. F. Campbell, of Augusta, Ga.; and G. J. Engelmann, of St. Louis.

A number of medical gentlemen present were made guests of the society, and Dr. Barker, the ex-president, and Dr. J. L. Atlee, of Lancaster, Pa., an honorary member, were requested to take seats upon the platform.

WEDNESDAY, morning session. The senior vice-president, Dr. William Goodell, called the society to order, and introduced Dr. A. H. Smith, who gave the address of welcome in behalf of the Philadelphia members.

Dr. J. C. Reeve read an account of a case of rupture of the perinæum without any implication of the vulva. The patient was a multipara, confined under the care of a midwife. Both anal sphincters were ruptured, and the child was delivered through the anus. In the discussion which followed, Dr. Campbell dwelt on the importance of an immediate operation in cases of rupture, since the lochia and other discharges do not seem in any way to interfere with the healing; while it often happens that operations performed later, the edges of the laceration being refreshed, fail. Dr. White thought that greater stress should be placed on the necessity of preventing these lacerations. He strongly recommended the making of lateral incisions. In this way the perinæum may be preserved intact, and such incisions very rapidly heal, the edges being brought together by the natural contraction of the parts.

A paper by Dr. Marion Sims on the Surgical Treatment of Dysmenorrhœa was then read by the secretary. The object of the paper was to establish the author's claim to having first suggested the antero-posterior incisions of the cervix in cases of stenosis, and the great value which he attached to this operation.

Dr. Barker thought it at least remarkable that one gynecologist should have performed this operation a thousand times, while others, having equal opportunities for operating, should so rarely see cases which seemed to call for

such treatment. He was convinced that the operation was often performed unnecessarily and injudiciously. He was cognizant of sixteen deaths which had followed this method of treatment, even where the operation had been performed by skillful surgeons. There were many cases of stenosis where some treatment seemed necessary to relieve either a dysmenorrhœa or sterility. He questioned, however, whether successful results were so often obtained as were reported. He had himself seen over a hundred cases in which an incision had been previously made by operations, but no relief had followed.

Dr. E. Wilson was opposed to this method of treatment, and believed that better results were obtained from a dilatation of the cervix.

Dr. Noeggerath said he could never forget Dr. Peaslee's two objections to this operation. In the first place, in cases of ante flexion of the second degree the canal can be straightened only by an incision running so high up as to open the peritoneal cavity. In the second place, by such a procedure the parenchymatous structure of the uterus is so injured that there is great danger of septicæmia. There may be cases in which a slight incision, not deeper than one fifth of an inch at the inner os and one fourth of an inch at the outer, may be justifiable. He believed, however, that the vast majority of cases reported as cured were in reality only relieved for two or three months. Before cases are reported as successful they must be under observation a long time.

Dr. H. P. C. Wilson had no doubt that the operation was too frequently performed, but still there were many cases where it was the proper thing to do. He had seen the most serious results follow the introduction of a sponge tent for the purpose of dilatation.

Dr. Lyman believed strongly in dilatation, and was opposed to the treatment recommended by the author of the paper.

Dr. Emmett said that careful observation had taught him that where the flexion was above the vaginal junction a proper examination of the case would discover trouble elsewhere, and that the uterine difficulty was merely the exponent of some abnormal condition lying outside the uterus itself. It was due to an obstruction of the circulation. A rectal examination will detect a thickening of the broad ligament on one or both sides, the result of a previous cellulitis. The fault, therefore, does not lie in the uterus in the beginning, nor will any such operation effect a cure. He believed firmly that mechanical dysmenorrhœa was a myth. In all these cases where such an operation is contemplated, he urged strongly the searching for the results of a previous cellulitis. Were this done the operation would soon come to be a thing of the past.

Dr. J. P. White reported a case of extra-uterine pregnancy in which the fetal bones had been discharged through the bladder. Drs. Atlee and Storer reported other cases of extra-uterine pregnancy. The general sentiment was in favor of abstaining from an operation as long as possible, and when surgical interference was demanded then to remove the fœtus, leaving the placenta behind to take care of itself.

Afternoon session. Dr. J. T. Johnson reported a very rare case, in which

he was called upon to deal with a combined foot and head presentation, and in which there occurred a fracture of the spine in utero.

Dr. Engelmann gave the details of a case in which a child was born with a great many of the bones broken, some of them presenting evidences of having been broken but reunited.

Dr. Noeggerath had seen one case in which there had occurred in utero a fracture of a humerus and also of a femur. Before the child was five years of age thirty-two spontaneous fractures of different bones had taken place.

Dr. Campbell had seen two children, in each of whom a fractured rib had been discovered soon after birth.

Dr. Emmett read a most carefully prepared table, giving an analysis of one hundred and sixty-one cases in which he had operated for vesico-vaginal fistula, with an account of the character of the preceding methods of delivery in each case. He stated that he had never seen a case of vesico-vaginal fistula which had been caused by the use of instruments. In the great majority of cases a neglect to empty the bladder is found to be the exciting cause. He would impress on the minds of the members of the society the necessity in all cases of introducing the catheter, no matter what the patient's statement as to the supposed condition of the bladder may be. The fistulæ in most of these cases had been caused by prolonged pressure.

Dr. Smith thought that the accident was not due to the amount or violence of the pressure, but to the duration of it.

Dr. Storer did not believe in the too frequent use of the forceps. If the head ceases to recede, or, in other words, it becomes impacted, then of course they must be used.

Dr. Barker observed that an over-distended bladder was *per se* a cause of retarded labor. The accessory muscles were not brought into action, owing to the pain occasioned by the distention. In cases where the parts are subjected to prolonged pressure we incur the danger of peritonitis, cystitis, and other inflammatory diseases. A prolonged first stage of labor, owing to the depression and exhaustion it produces, is a powerful factor in causing a prolonged second stage. In such cases the administration of an opiate to produce sleep, or of quinine in full doses to excite the uterus, was the proper method of treatment.

Dr. Wilson (Baltimore) believed that the use of the forceps should not be considered as an operation, but should be frequently employed with a view to shortening the labor.

Dr. Barker added that the forceps were demanded not only when the head ceases to recede, but when it ceases to advance.

Dr. Atlee thought that forceps should be used for the purposes of relieving pain and cutting the labor short.

In answer to a question of Dr. Smith, Dr. Emmett said that even where the head was pressed firmly against the pelvic brim it could be pushed back often by means of the forceps, and thus the catheter could be introduced. If this could not be effected, he believed in tapping the bladder with the aspirator through the abdominal wall, rather than running the risk of trying to extract a head, the bladder being distended.

Dr. Reeve had thus emptied the bladder with the aspirator in one case, with no unfavorable symptom.

Dr. Goodell thought that the tendency of the discussion was to make too light of the operation of forceps. He was of opinion that their proper use required a certain amount, at least, of practice and skill. He considered that many perineal lacerations were due to the improper use of forceps by inexperienced operators. He advocated the removal of the forceps as soon as the head came to the perinæum, unless there were symptoms demanding an immediate delivery.

THURSDAY, morning session. Dr. Wilson (Baltimore) gave the details of a case in which he had succeeded in stopping a severe post-partum hæmorrhage by scraping the placental surface of the lining membrane of the uterus with his finger-nails, using the hand as a curette, as it were.

Dr. Penrose gave a summary of the methods proposed for treating post-partum hæmorrhage. He closed his paper by strongly urging the use of common vinegar, a means which he had for years employed, and which had never failed at once to arrest the flow of blood.

A general discussion on the proper treatment of post-partum hæmorrhage followed the reading of the two papers.

Dr. White had never used vinegar as thus recommended, but had many times used it as a local styptic in uterine surgery with remarkable success.

Dr. Thomas considered that all cases of post-partum hæmorrhage were due either to uterine inertia, to some influence which prevents a uterus from contracting, although the uterus itself is not at fault, or to some solution of continuity. He believed that nine out of ten cases were due to some mismanagement on the part of the attending physician, who does not properly see to it that a firm uterine contraction takes place after delivery. A small clot, for example, forms, and this gradually increases; the uterine fibres around it become relaxed, and then follows the hæmorrhage. He thought that the third stage should not be considered as the expulsion of the placenta only, but it should be the complete tonic contraction of the uterus, the expulsion of the placenta being merely an epiphenomenon of this stage. The ferric salts were too dangerous ever to be used except as a last resort. What we want is a stimulating application to the interior of the uterus. He did not believe that vinegar was a specific, but that alcohol or hot water would do just as well as anything else.

Dr. Atlee strongly favored the immediate introduction of the hand within the uterus.

Dr. Smith dwelt on the necessity of freeing the uterine cavity from clots, and after that he would advise the injection of hot (110° F.) carbolyzed water.

Dr. Campbell thought it of the utmost importance in all severe cases to raise the foot of the bed, that the brain might be stimulated by the return of blood to the head.

Dr. Engelmann spoke in defense of the use of ferric salts. The danger was that they were not properly used. The uterine cavity should first be cleared completely of clots, and the iron should be applied through a speculum.

Dr. Trask in reply said he did not believe that the iron was of advantage as a styptic, but as an irritant, and as such there were other and safer means at our disposal.

Dr. Chadwick alluded favorably to the subcutaneous injection of ether, which had proved successful in three cases under his care.

Dr. Barker laid especial stress upon the hæmorrhagic diathesis as one of the predisposing causes of post-partum hæmorrhage. It was often found associated with excessive anæmia, and as such required to be treated from a prophylactic stand-point with the appropriate remedies. If the hand is introduced within the uterine cavity, it should be kept there until expelled by uterine contractions. He had, however, in four cases seen a laceration of the os produced by the introduction of the hand within the uterine cavity. This operation was therefore to be avoided if possible.

Dr. Wm. Goodell then delivered the annual address. After paying a graceful tribute to the memory of Drs. Peaslee and Atlee, who had died during the past year, taking a brief review of the work of the last meeting, and making some useful hints as to the future, he passed at once to the consideration of the relation which neurasthenia bears to the diseases of the womb. The address was a firm and scholarly protest against the tendency to meddlesome gynecology, — the treatment of local uterine effects instead of the great causes which were producing the effects. The essence of many of these diseases lies in the nerve centres, and not in the sexual organs. He warmly advocated the methods of treatment described and followed with such happy results by Dr. Mitchell.

Afternoon session. Dr. Byford read a paper on Dermoid Tumors of the Ovaries. Some later theories as regards their development were subsequently explained by Dr. Noeggerath.

The next paper was by Dr. Richardson, who spoke on the Treatment of the Acute Parenchymatous Nephritis of Pregnancy, with a special reference to the question of the proper time for the induction of premature labor. He believed that while the quality of the urine gives the signal-note of danger, the quantity of urine daily secreted by the patient should be our guide as to the extent of danger. Many cases of nephritis terminate in eclampsia, while others, oftentimes apparently more severe as judged by the symptoms, do not. The key to the problem he thought was to be found in the fact that in the former class of cases the daily quantity of urine grows less and less, while in the latter, although it becomes diminished, it does not at all reach the small amount obtained in the first class of cases. Wherever, then, we have to deal with the acute nephritis of pregnancy, the writer advocated the keeping of a daily record of the quantity of the urine secreted. If this falls below a certain point, despite all efforts to prevent it, then labor should be induced; otherwise it should not, no matter how grave the accompanying symptoms may be.

Drs. Thomas, Barker, and Lyman agreed with the writer, and thought the suggestion an eminently practical one for future investigations.

FRIDAY. The morning session began at nine o'clock with closed doors. The following elections took place:—

President, T. G. Thomas, of New York; vice-presidents, D. H. Storer, of Boston, H. P. C. Wilson, of Baltimore; council, T. A. Emmett, of New York, A. H. Smith, of Philadelphia, John Byrne, of Brooklyn, G. J. Engelmann, of

St. Louis; secretary, J. R. Chadwick, of Boston; treasurer, P. F. Mundé, of New York; honorary Fellows, J. S. Billings, U. S. A., Washington, D. C., J. Matthews Duncan, London; active Fellow, Nathan Bozeman, of New York.

It was voted that the next meeting be at Baltimore, the third Wednesday of September, 1878.

Dr. S. C. Busey read an account of a case of Alternating Anterior and Posterior Version of the Uterus.

Dr. Garrigues contributed a valuable historical account of the operation of gastro-elytrotomy, with a critical examination of the merits of the operation.

In the discussion which ensued Dr. Thomas stated that thus far no hæmorrhage had followed the operation. Should it do so, it could easily be controlled by a carbolized tampon in the vagina, and a second in the iliac fossa, the latter being held in position by a firm bandage of sticking-plaster. During the last two hundred and fifty years New York had seen only one successful case of Cæsarean section, while in the last eight years there had been five successful cases of gastro-elytrotomy. There was no danger of creating a urinary fistula; the worst that could happen was a rent in the bladder, and such rents always readily healed.

Dr. Byford favored the operation as being much safer than gastro-hysterotomy.

Dr. Bozeman considered the operation a very dangerous one, owing to the fact that the ureter must necessarily be injured, and a ureto-vaginal fistula was a very serious affair, there being only one case on record of such a fistula being healed.

Both Dr. Thomas and Dr. Garrigues replied that the danger of injury to the ureter was an imaginary one, the latter having demonstrated on the cadaver that the incision and tear are made below and parallel to the normal position of the ureter.

Dr. Smith read an elaborate paper in which he entirely opposed the use of the forceps as a lever, and endeavored to show, by a mathematical demonstration, that the pendulum-like use of the forceps was unsafe, and contrary to the true principles of mechanics.

Afternoon session. Dr. Barker believed that in many cases, while both blades of the forceps should advance at the same time, they should move at different rates. In this way the amount of irritation, friction, and compression is relieved, for you thus allow intervals of rest, now on one side and now on the other of the vaginal track. In no case should one end of the head be thrown back while the other is brought forward, for in that way injury would be done.

Dr. White favored the pendulum use of the forceps under certain restrictions.

Dr. Storer and Dr. Penrose also took exception to the views of the reader.

Dr. Thomas believed that the forceps should be used as tractors when they could, but as levers when they must. If the delivery is to be made after a long labor, when there is œdema from pressure on the venous system, then the lever action must be used, for only in this way can the œdema be gradually overcome. It was the same principle as we should apply in drawing a ring

from a finger which was in a normal condition, and again when the finger was swollen. He believed that in all cases in which the pendulum movement was used, it must be as an adjunct only of a simultaneous traction.

Dr. Goodell thought that in gross the ideas of Dr. Smith were correct, but in detail they were wrong. The error was in not remembering that the head was compressible. The leverage must be made always slowly, carefully, and within a limited space.

Dr. Campbell read a paper on Rectal Alimentation in the Nausea and Inanition of Pregnancy.

Dr. Goodell then delivered the farewell address, and after votes of thanks to the secretary and the retiring president the society adjourned, to meet in Baltimore.

OUR MARINE HOSPITAL SERVICE.

WE have already taken occasion to comment upon the satisfactory administration of this branch of the public service under the direction of its present able head, the supervising Surgeon-General, Dr. John M. Woodworth. The manner in which this department has been conducted is a favorable illustration of the excellent character of the work done at Washington by our medical officers. A reference to the present annual report, which has just appeared, shows that for the last five years no deficiency appropriation has been asked of Congress, while in the twenty successive sessions the annual appropriation reached nearly two hundred thousand dollars. The average cost per patient has been lower the present year than ever before, and this result has been reached by a more careful selection of cases for hospital treatment, and the disposal of the lighter cases by an out-patient system. Incurable patients are furnished transportation to home and friends, and a great deal of money has been saved in this way, the comfort of the patients being correspondingly enhanced. Care has been taken also to suppress the presentation of fraudulent certificates by persons not entitled to the benefits of the service, and by those feigning disease and wandering from hospital to hospital. A great deal of stress is laid upon the propriety of instituting a physical examination of all sailors entering our marine service. The navy, the marine corps, and the life-saving service recognize the absolute necessity of such examination, and enforce it accordingly. In the appendix to the report is a paper on this subject by Surgeon Bailhache, of Baltimore, who presents a striking picture of the wretched material from which ships' crews are made up. This evil also exists in England as well as in this country, and a variety of testimony is cited to show that very few English or American ships ever sail from port with sound and healthy crews. The result is that there are always a large number of chronic frequenters of hospitals, and conditions favorable for the spread of contagious diseases abound. The protection offered to the seaman, passenger, owner, vessel, and cargo would be great, and the regulation would be advantageous, not only from a sanitary, but from a simple business point of view.

It is a curious fact that although there are a number of marine hospitals at

our different ports, no hospital has ever been built for this purpose either at New York, Philadelphia, or Baltimore, and at New Orleans a building was begun twenty years ago, but has never been finished. The obstacle in New York has been the difficulty in finding a suitable site for a building. A site on Bedloe's Island, the island selected for the colossal statue of Liberty enlightening the World, has been found adapted for the purpose, and it is to be hoped that Congress will permit the department to occupy it.

The articles on yellow fever in the appendix will be read with unusual interest. They give a graphic account of the epidemic in Savannah in 1876, and at Fernandina last year. In the former city the fever had not abated until the middle of October. A description of the sanitary condition of the city, the arrangements of its privies, etc., are somewhat startling to those accustomed to modern notions of sanitary science, and yet this state of things must have existed for many years. The peculiar mode of spreading of the disease and its characteristics are well described by Assistant Surgeon Smith.

With such a service as this at the disposal of our government, it would seem that all the necessary machinery existed for a thorough investigation of this little understood disease. The manner in which Dr. Woodworth has organized his department, and his capacity for developing new fields of usefulness for it, as shown in the weekly health reports lately inaugurated, indicate that he is eminently fitted for the task. We are glad to hear that he is already in communication with the American Public Health Association, and that a committee has been organized, consisting of Dr. Bemis, of New Orleans, Dr. Cochran, of Mobile, and one other, and an appeal for aid has been made to the boards of trade of the principal Northern cities; and we trust that the country will no longer rest under the reproach of having accomplished nothing towards protecting its inhabitants from the inroads of so bold an intruder.

MEDICAL NOTES.

—Dr. Charteris, of Glasgow, recently said, "The benefits of warm climates and of well-known resorts for phthisis consist simply in the fact that out-of-door exercise can be taken with greater impunity, and with less chance of lowering the vitality." "This is the gist of the whole matter of climate," says the *Richmond Medical Journal*.

—Prof. v. Arlt, of Vienna, recently received the gift of a splendid album containing two hundred photographs of oculists, most of whom had been his pupils. — Carl Sachs, the talented assistant in the Physiological Institute in Berlin, is dead. — Prof. v. Voit has been made rector of the University of Munich. — Professor Lebert, of Breslau, a distinguished writer, is dead. — Dr. Forster has been made professor of hygiene in Munich. The chair was formerly held by Professor Hoffmann, now of Leipzig. — Professor Spiegelberg has been appointed rector of the Breslau University, and Professor Kacher rector at Bonn.

—In the vomiting of pregnancy pure carbolic acid when applied to the cervix uteri is just as efficacious as stronger caustics, and is better for the organ in question.

— According to the London *Lancet*, September 7, 1878, page 342, M. Maurice Raynaud, in a recent communication to the Académie de Médecine, "found that the development of the vaccine vesicle is not essential to the production of immunity, since it was equally obtained when, after subepidermic inoculation, the development of the vesicle was artificially prevented," — a confirmation of the experiments related in the *JOURNAL* of April 25, 1872.

— "In the opinion of Kunze," says the *Medical Press and Circular*, "we possess in curare a remedy by means of which we may cure cases of epilepsy of long standing. He employs a solution of seven grains of the drug in seventy-five minims of water, to which he adds two drops of hydrochloric acid. At intervals of about one week he injects hypodermically eight drops of this solution, and in cases in which convulsions had occurred for several years he obtained a complete cure after eight or ten injections."

CHICAGO.

— The resolution of the Chicago Medical Society, passed at a meeting some weeks ago, calling on a number of prominent physicians, whose names had been used in an advertisement for spectacles by a vender, for an explanation of the alleged offense, brought forth a number of replies quite various in tone. Some of the gentlemen declare the action of the society unwarranted. The society had before it at a subsequent meeting a resolution to refer the matter to the state and national associations. After an animated debate this was indefinitely postponed by the casting vote of the chairman. The offensive advertisement has been withdrawn from the daily papers.

— The West Chicago Medical Society passed a resolution at a recent meeting, expressing sorrow that for the first time in the history of the institution, at the last election for internes at the Cook County Hospital, — which election purports to be based on merit as determined by competitive examination, — other considerations than those of merit were allowed to influence the choice; expressing also the belief that such positions should always be open to free competition by competitive examination as rewards for merit, etc., etc. A copy of this was sent to the medical board of the hospital, which passed a vote denying the allegation contained in the resolution of the society, and asking the society to send a committee to their next meeting to present specifications and charges. This invitation was brought to the society and presented at its meeting of September 9th, but an adjournment was voted without taking any action in the matter. Several members of the society express surprise at the vote of the medical board, supposing it a matter of street notoriety that the election had occurred as the resolution of the society intimated, and that nobody would deny it. It seems the deviation from the usual course, if it occurred at all, was in the interest of dividing the appointments of internes among the graduates of different colleges.

— The sale of kumys in Chicago — for several years quite an industry — during the present summer season has been very large. It has been used extensively by the sick, and often prescribed by practitioners as a beverage or a medicine, often procured by the patients for its pleasantness as a liquid food and drink. But it is not unlikely the major part of that sold has been used by the well as a summer drink. The article has been sold by the glass by the

manufacturers, — generally druggists, — and nearly every drug store has had displayed in its windows a placard, "Kumys on draught." Several manufacturers employ delivery wagons to supply regularly such druggists as do not themselves manufacture, as well as families. With a class, kumys drinking is quite fashionable; it has taken the place of liquor drinking. It is now the correct thing to do on a hot day to ask a friend to step in and take a glass of kumys. Many attempts have been made by families and others to make kumys domestically, but so far the only really fine samples have come from the hands of the expert manufacturers who make a business of it. It would be used more extensively if its cost were less. Thirty and forty cents a quart puts it out of the reach of the masses for a regular diet.

LETTER FROM NEW ORLEANS: YELLOW FEVER.

MR. EDITOR, — In compliance with your request, I shall endeavor to snatch some odd moments from the pressing duties of this epidemic, and describe some of its leading features, giving a glance at one or two points of treatment. Leaving aside the mode of origin or introduction of yellow fever this year as a subject still under consideration, it is to be noted that two cases occurring in the latter part of May among the crew of a steamer running to Havana were followed by no more cases until early in July. The usual method of disinfection by carbolic acid was carried out in connection with all the earlier cases, but it proved signally ineffectual. This disinfection is based upon the hypothesis of living germs as the *materies morbi* of yellow fever, which move along the ground and low-lying surfaces (not through the atmosphere), and which are reproduced principally, if not entirely, outside the human body. The plan is to attack surfaces supposed to be infected with a three per cent. solution of carbolic acid, and to commence by throwing a cordon of the disinfecting liquid around the infected locality. This area is then sprinkled over with the same liquid, and the work is sometimes repeated in a few days.

The above was the plan tried during the present year, but it seems as if the infected localities were not effectually inclosed, for new foci continued to appear at spots more or less remote from those first affected, until the fever gradually assumed epidemic proportions.

Every epidemic has some characteristics of its own. That of 1867 was marked by its wide-spread influence over our population, including negroes, with a prevalence amounting to a total of about forty thousand cases, and the low mortality of about eight per cent., as estimated from the most probable data. The most striking characteristic of the present epidemic is its partiality for young children, most of the subjects and most of the deaths thus far having occurred among those born since 1867. Several infants born since the appearance of the fever have been attacked, among whom I may instance in my own practice one five weeks old when it sickened, and another not quite four days old. The former recovered deeply jaundiced; the latter was a case of very moderate severity.

Another characteristic is the frequently unprecedented severity of its onset among young children, death having occurred within twelve hours in some instances, with a temperature from 106° F. to nearly 108°. Heretofore young children have got off for the most part very lightly, and the opinion was formerly prevalent that children born here were exempt. Even now some people, including a few Creole physicians, adhere to this antiquated belief, in face of the hundreds of native children that have died this year with the most marked symptoms of yellow fever.

The great prevalence of the fever among young children is plainly referable to the fact that they have not been subjected to its infection before; and its unexampled fatality is reasonably explained by the want of that early and gradual *seasoning* to the morbid influence which was formerly acquired by the yearly presence of the disease and the frequency of its epidemic visitations.

As to treatment, there is no plan of general adoption among our practitioners, and most allow that each case must be treated on its own merits, as indications arise. The advocates of the old quinine mode continue to give large doses (some with the addition of opium) at the inception of the fever, with the view of promoting perspiration and obviating the usual severe pains in the forehead and lumbar region. One medical gentleman started this year on the disinfectant plan of giving carbolic acid internally. There are probably some other special hobbies, which I have had no time or inclination to notice. A large proportion (myself included) commence by a thorough evacuation of the alimentary canal, and for the rest rely chiefly, in ordinary cases, upon moderate diaphoresis, which is generally maintained by a single blanket, warm drinks, and hot foot-baths, *pro re nata*. Most cases can be taken through successfully without a dose of physic by the mouth after the preliminary evacuation of the *primæ viæ*.

A new mode of treatment (to this city at least) has been introduced, with special reference to cases marked by an excessive temperature. This is the external use of cold water, and it has been found highly efficacious in cases adapted to its application. The most effectual appliance is one invented by Dr. Kibbie, of New York, who is now here putting it to practical trial. It consists of a cot with a cover of loose mesh, and below a rubber cloth arranged as a gutter to carry off the water. The patient is wrapped in a sheet or blanket, placed on the cot, and subjected to an irrigation of water from a sprinkling-pot, until the temperature is reduced nearly to the standard of health. He is then rubbed dry, wrapped in a dry blanket, and left to sleep on the same cot. This process is repeated as often as the temperature rises above the point of danger, — say 104°. The plan has been found highly satisfactory in a number of cases, and will be further tried. Occasions have arisen when it was found desirable to resort to refrigeration in the absence of the "fever cot," and several practitioners have used such modes and appliances as their own ingenuity could supply; the results have been found highly encouraging.

The value of the clinical thermometer is found inestimable in the treatment of yellow fever this year, and its possession gives us a great advantage not enjoyed in 1867. It serves both as a compass to point the way in management, and as a beacon to warn of danger; and, besides, it has proved the fallacy of

an old notion that this is a fever of a single paroxysm and a definite limit to seventy-two hours. We now find the fever subject, in many cases, to irregular fluctuations, and that it may last even ten days and then terminate favorably.

Physicians are required to report all cases in their practice, and compliance has been quite the rule, with rare exceptions. The mortality among the reported cases has not varied materially from thirty per cent., but this is considerably higher than facts would show were all the cases brought to light. Many cases, particularly of young children, are treated by their parents, and no physician is called, unless dangerous symptoms supervene. This has always been the case here, but is probably so to a greater extent than ever. Plain directions for the management of cases, and people are generally well fore this year. The Board of Health has printed and widely circulated some informed of the necessary course to give a person a fair start.

The benevolence of sympathizing people at a distance is manifested in a variety of ways besides liberal contributions of money and provisions. Unacclimated physicians have written to offer their services, without reflecting that they would be sure to contract the fever and thus increase our difficulties. One gentleman of education and intelligence, to my knowledge, has come from a distant State and lost his life in attending on the sick. The use of secret remedies has been offered, — of course for a consideration. Innumerable specifics, of infallible efficacy, have been suggested, in letters to the mayor and Board of Health, by individuals who never saw a case of yellow fever, and probably would not like to see one. Our newspapers teem with advertisements of sure preventives, and I have been called out of bed at night to see a credulous fellow who made himself seriously ill with one of these nostrums, which exhibited the familiar odor of ipecac. Many trust in Holman's liver pad, and others in little bags of assafetida and camphor suspended to the neck. This mild fetishism affords great comfort to minds which lean on faith in the mysterious, — a faith unshaken by failure and disappointment even to themselves; therefore it is not quite useless, and on the whole vastly preferable to those frauds which are palmed off under the guise of great medical discoveries.

The above are a few of the most salient points of our epidemic. I cannot undertake now to afford more than a passing glance at the grand and dreadful panorama, through which we are passing, too busy to speak to the outside world, except in acknowledgement of their sympathies and material contributions to our relief.

Respectfully yours,

S. S. H.

NEW ORLEANS, September 19, 1878.

LETTER FROM PHILADELPHIA.

MR. EDITOR, — I left Boston early in the week to attend the third annual meeting of the American Gynecological Society, appointed for this year in this brilliant city. The distance is only three hundred miles, and that done by the New England road between seven in the evening and nine the following day,

most of which time is passed while comfortably asleep in your berth. Philadelphia, as everybody knows, has always been a great medical centre, its graduates radiating in every direction over the country, from Maine to California. A mere enumeration of the great names of its teachers would fill more space than I should dare to ask of your journal. Rush, Shippen, Physick, Dewees, Hodge, Meigs, Chapman, Wood, Gibson, Horner, Jackson, Dunglison, Mitchell, Atlee, Pancoast, and Gross are names familiar as household words to every American physician; and the same indeed may be said of its present array of active teachers, brilliant successors of these distinguished men. What more appropriate place for the meeting of this wide-awake progressive new society, comprising as it does so many representative men in a comparatively new medical field? When I entered the hall of the College of Physicians, in which the meetings were held, I could but wonder how the venerable teachers of the past generation, some of whose portraits adorned the walls, and all of whom held sway in one or the other of the rival University and Jefferson schools, would have scouted the idea of such an entire revolution in the practice of their successors. Few of them probably ever heard the word gynecology. Forceps were a dread mystery, to be dealt with by the high priests of the art only; the use of the knife abandoned to the hands of the so-called pure surgeon alone; laparo-hysterotomy practically unknown, though Physick had suggested and Baudelocque attempted it; lacerations of perinæum and cervix and vesicovaginal fistulæ rarely cured, even if the cure was attempted; and as to ovariectomy, who among the middle-aged men of to-day does not well remember the hue and cry about this so-called preposterous, unscientific, unjustifiable operation of "*belly-ripping*"? Our own grand and conservative Massachusetts Medical Society thought it at last worth while to offer a prize for the history and statistics of the operation, of the result of which offer it is perhaps not becoming in me to speak, though I may possibly venture to claim that it had its share of influence in bringing the operation into more general notice and favor.

One naturally wonders how the doctors managed matters in those old times, for the same disorders must have existed then as now. To judge from the little said of them, these infirmities must have received but scant courtesy. The women apparently lived and worried through them, either in happy ignorance of the cause of their torments, now so commonly recognized and successfully treated, or, knowing, submitted, in the despair born of ignorance, to the miserable lives which progressive modern science has done so much to render comfortable and desirable. This new society, then, has come to its birth in good season. Some centre surely was needed about which gynecological science could gather, where both overmeddlesomeness and apathetic indifference could be brought to the rack of scientific criticism, crudities repressed, and intelligent investigation encouraged. Certainly, even in these days, with such a plethora of new societies, this one may claim a sufficient *raison d'être*.

Most of its members are engaged in active general practice, where they find a class of local and reflex feminine disorders needing special development, and whose pathology and treatment have until late years been hardly suspected

even, and are only now beginning to assume some definite and rational shape.

The society, large enough in its infancy to embrace a few from all sections, and small enough for working efficiency, embraces men of such tried and well-merited reputation as will guarantee its authority and influence in giving direction and concentration to the energies of those who, for lack of such a tribunal, could get no wide and at the same time *special* hearing. If it continues to excite the interest and emulation now existing, all will realize that there is work enough for it to do, which could never be so well done in any general society. Its field is not "close-cropped stubble" (as the "Professor" has recently and happily called another branch of medical study) for the gleaners, but rather a luxuriously growing harvest, to be sedulously and patiently cultivated for the sickle. Let us hope that it will weed out the tares as they spring up, and do something to keep in check much unnecessary and ill-directed exclusively local treatment. In this connection let me say that the paper of Dr. Goodell, which, being in the form of a presidential address, could not properly be discussed, besides being a most interesting and scholarly production, was an apt showing of the value of constitutional measures as a large factor in any successful treatment. The eminently successful cases which he cited enabled him to pay a generous and well-deserved compliment to his distinguished friend, Dr. Weir Mitchell, whose general plan he followed, and whose book should be a manual in every gynæcologist's hands.

To one who knows Philadelphia, it is needless to say that hospitality abounded. To say nothing of elaborate lunches and receptions, the Obstetrical Society gave a delightful dinner at St. George's Hall, and though, to my dismay, I found speeches were in order, and felt a sudden consciousness of some remote and hitherto unsuspected stream of Quaker blood stirring in my veins, their genial president made it easy for all whom he called upon, even the modest and untried, to clothe their ideas in words and deliver themselves. The spirit was in all; it moved easily, and though neither chloroform nor ether were visible, the anæsthesia so skillfully induced caused such a delightful sensation that your correspondent, for one, would not have objected to a multiple labor. But I must not encroach upon your regular correspondent, from whom you will get a skillful digest of the scientific proceedings, the essays, and discussions, and to his report I will refer your readers.

G. H. L.

SHORT COMMUNICATIONS.

CORRECTION.

MR. EDITOR,—Please correct statements attributed to me in report of American Dermatological Association. I did not say that I regarded vitiligo as a syphilitic lesion. I stated that I had seen the affection with unexpected frequency in syphilitics, but have often seen it in others. I did not say that the positive needle in electrolysis produced the most *scarring*, because, other things being equal, the reverse is the case. I said that if a positive needle of steel was used, there was danger of *staining* from the oxide of iron which is formed during the process of electrolysis.

I remain yours respectfully,

HENRY G. PIFFARD.